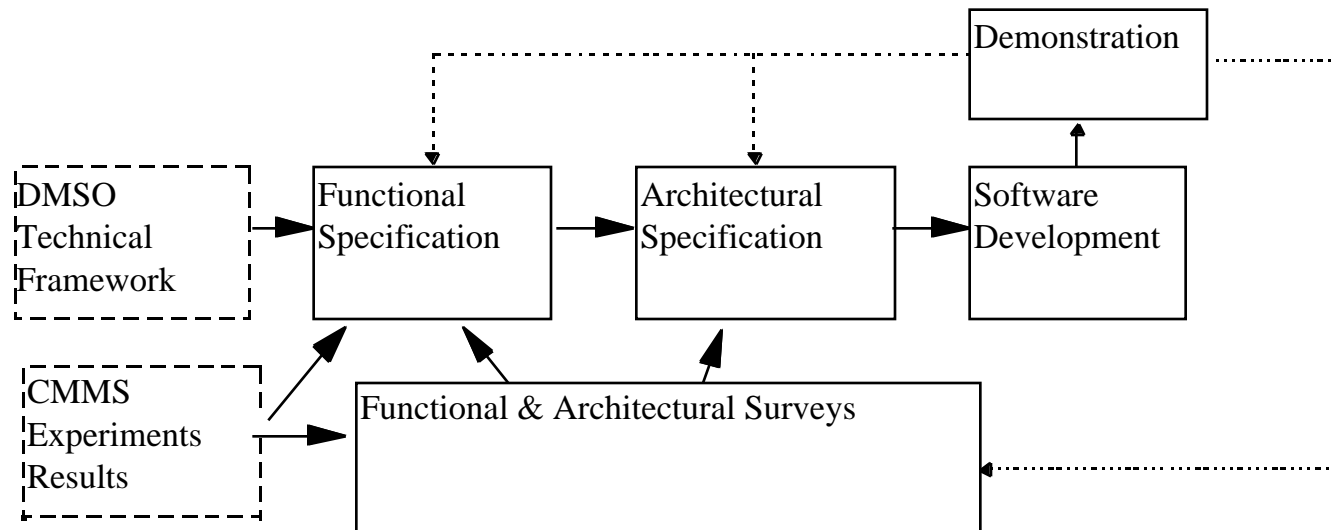

Cycle 1 Functional Requirements Specification

Larry O'Brien

Cycle 1 Demonstration

- Objectives:
 - » Demonstrate all major CMMS functions (except *Create*)
 - » Use realistic mission thread
- Location
 - » DMSO
 - » Selected Major Simulation Program Sites
- When
 - » October

Prototype Development Process



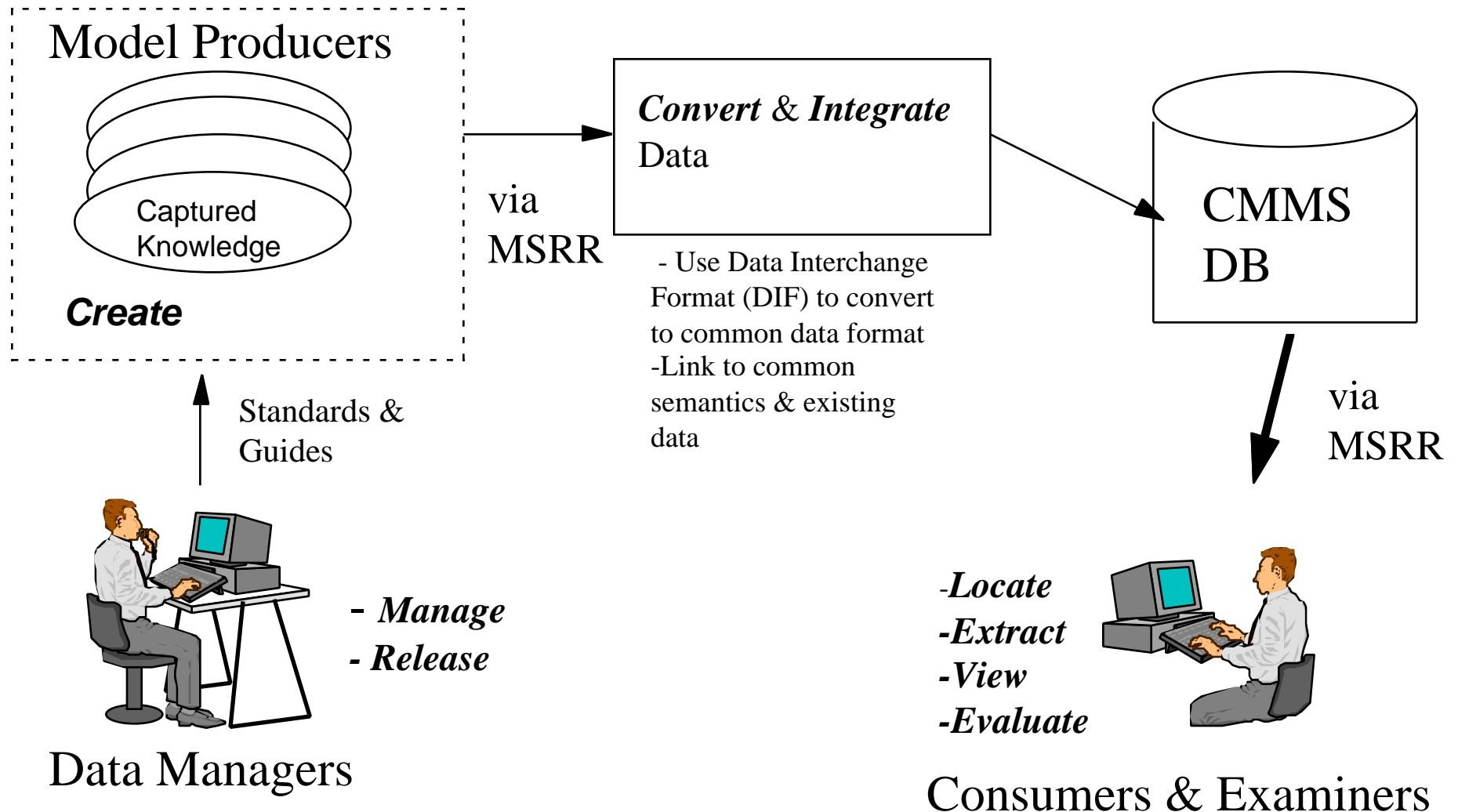
Content-Main Body

- **Section 1-Introduction**
 - » 1.1 Objective and Document Organization
 - » 1.2 Referenced Documents
 - » 1.3 Cycle 1 Operational Concept
- **Section 2-Requirements**
 - » 2.1 Create
 - » 2.2 Register
 - » 2.3 Convert
 - » 2.4 Integrate
 - » 2.5 Manage
 - » 2.6 Release
 - » 2.7 Locate
 - » 2.8 Evaluate

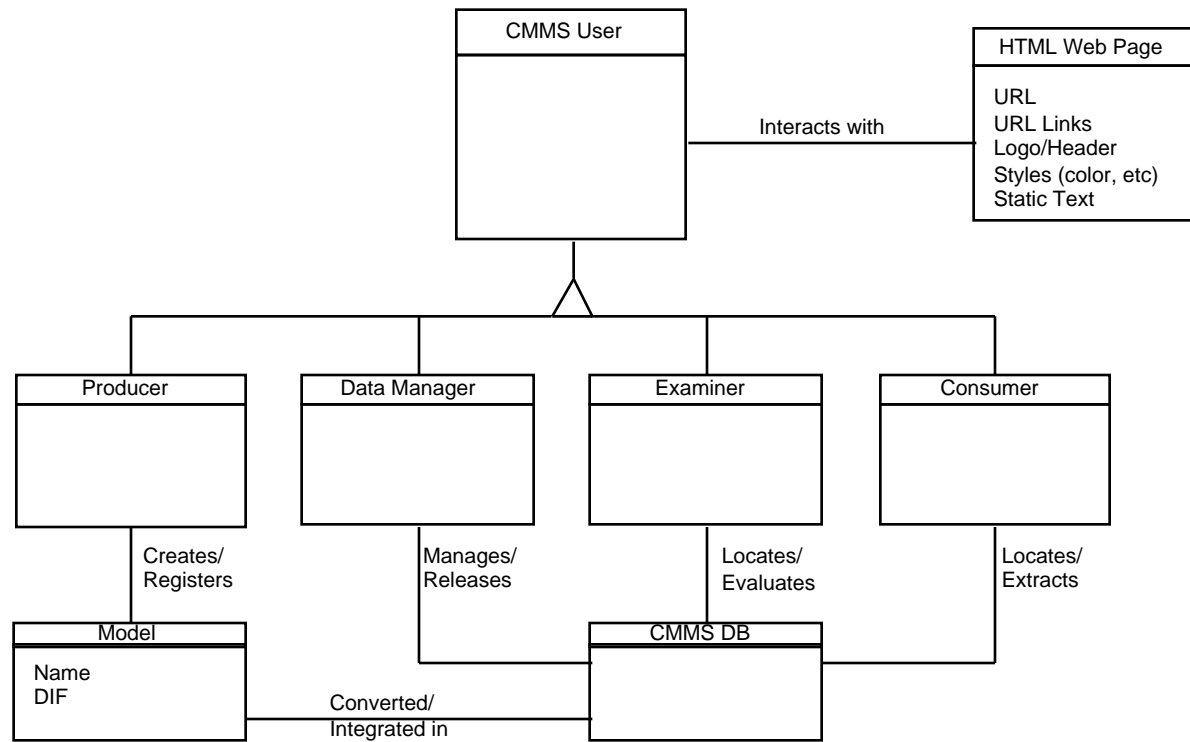
Content-Attachments

- Attachment A: CMMS Technical Framework
- Attachment B: CMMS Development Plan
- Attachment C: Joint Interdiction Thread

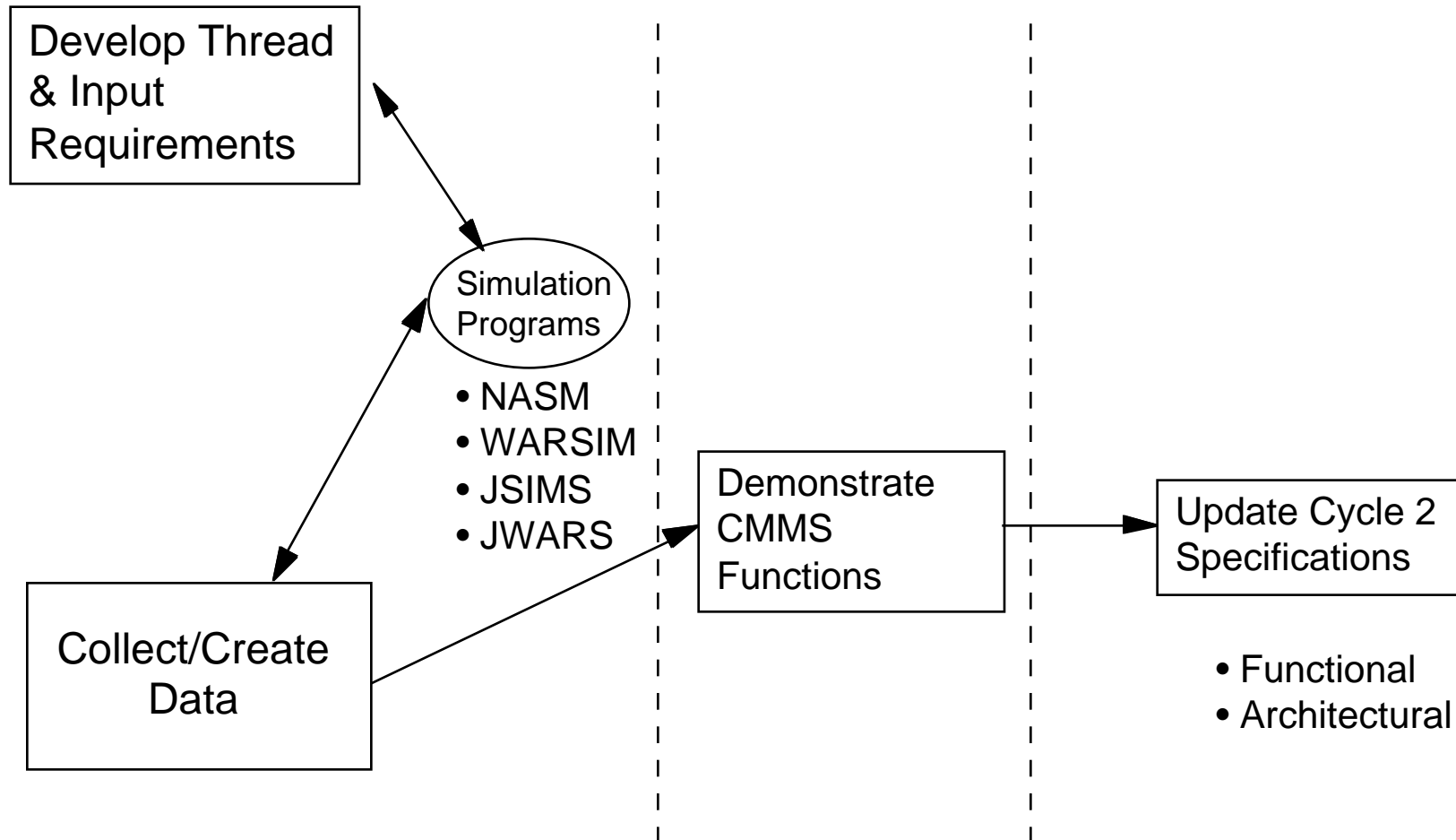
CMMS Overview



CMMS Objects



Demo Operational Concept



Types of Input Data

- List of units
 - » Links to entities in data dictionary
- Unit decomposition
- List of tasks performed by unit
 - » Links to action types in data dictionary
 - » Links to UJTL (top level tasks)
- Task decomposition
- Inputs and outputs between tasks
 - » Links to entities in data dictionary
- List of (sub) missions (if any)
- Assignment of tasks to mission(s)
- Task and unit reference documents

Create

Create. Capture of real world information about one or more Missions in the form of a Model for eventual inclusion in CMMS.

- Goal: No new creation of knowledge
- Obtain/use knowledge from 4 existing programs
 - JSIMS
 - WARSIM
 - NASM
 - JWARS
- Obtain knowledge to support thread.

Register

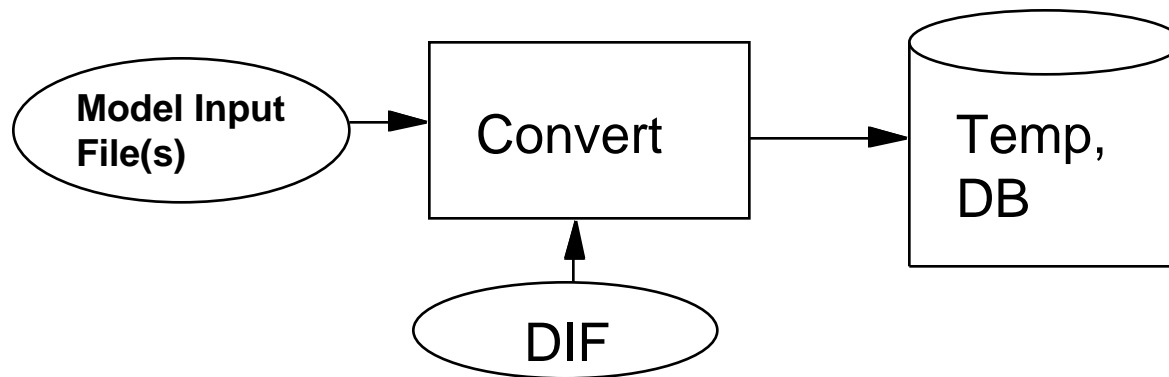
Register. Submission of one or more models for actual inclusion in CMMS including source, format, and content checking with deficiency correction as appropriate.

- Producer registers new model (e.g., JSIMS, WARSIM, NASM, JWARS) or update an existing model
- Producer provide summary information on model.
- Producer indicates privileges to be granted to users.
- Producer describes location of model (model loaded).
- Data quality check performed.

Convert

Convert. Transformation of a Model which has been Registered from its native form to a standard form required by CMMS including extraction of semantic and syntactic elements.

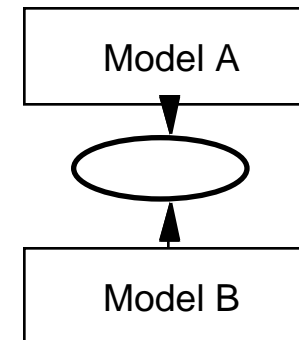
- Convert data using DIF



Integrate

- **Integrate.** The act of combining, normalizing, storing, indexing, and in general migrating Registered Models in CMMS standard form to a higher level of structural maturity and semantic enforcement within a unified database

- Perform relationship checks
- Link data to items in data dictionary
 - Actions
 - Entities (Actors, Inputs, Outputs)
- Link high level tasks to UJTL
- Link new data to data already in data base
- Provide on-line interface for filling in missing links.



Manage

Manage The provision of configuration management, version control, change traceability, data storage, and resource allocation for Models in CMMS.

- Configuration Management
 - All data tied to model and version.
- Traceability
 - Interface provided for updating reference documents.
 - VV&A pedigree updated to reflect reference changes.
- Data Storage
 - Implemented via a COTS DBMS
 - Data structure consistent with EATI canonical form
- Installation Instructions
 - Describe installation procedures and requirements including resources
- Event Services
 - Producers notified of Integration, Consumers notified of model changes
 - Integration and Release reports provided

Release

Release. The provision of security services, access control, user identification for use and examination of Models.

- User Identification and Access Control
 - Users must be registered and authenticated
 - Users only allowed to perform functions and access models for which they have been authorized.
- Security Services
 - Cycle 1 implemented on C2 operating system.

Locate

Locate The use of on-line browsing tools, automated searches, and retrieval queries to identify Models of interest.

- Fully Structured Views (FSVs)
 - Provide Information Interaction FSV
- Provide Following On-Line Reports
 - Organization Mission Tasks
 - Task Data
 - Model Semantic Assignments
 - Model Data Quality Errors
 - Model Relationship Errors

Extract

Extract. The use of application programming interfaces and automated data retrieval services to gather, format, package, and delivery CMMS Models to simulation developers.

- Provide on-line queries
- Provide capabilities for downloading data displayed in queries and reports.

Evaluate

Evaluate. Determination of the suitability of a CMMS Model for specific end-use by a simulation developer.

- Provide user with on-line interface to update VV&A pedigrees (model version, entity, action, reference)

Attachment C: Joint Interdiction Thread

- C.1 Hypothetical Scenario
- C.2 Joint Interdiction
 - » C.2.1 Air Interdiction
 - » C.2.2 Land Interdiction
 - » C.2.3 Maritime Interdiction